carefully pursued study of chaetotactic variation in *Lucilia* and *Calliphora*, especially the former, carried out by Mr. Phineas W. Whiting (Ann. Ent. Soc. Am., vol. 6, pp. 257-267). The author states that he secured female flies and caused them to oviposit, rearing the progeny for study, but points out that the issue of each female probably represents a mixed issue from the paternal side, since copulation is frequent. Rearing the flies from collected puparia and mating like individuals, or unlike individuals, in each case tabulating both parental sets of characters, will eliminate from the investigation this as well as other conditions that might prove a source of inexactness.

Mr. Whiting's results are not only extremely interesting but highly suggestive. The data which he presents are extensive enough to carry much weight. He is undoubtedly right in attaching much importance to habitus in specific determination, involving general coloration and slight differences in form including frontal width, by which criteria it seems certain that more than four recognizable species of *Lucilia* exist in North America. The series bred by Mr. Whiting from abnormal females is especially instructive. Such work can not fail to yield results of great value in determining species limits. It is to be hoped that Mr. Whiting will pursue this work farther.

Notes on North American Tineina, with descriptions of new species (Lepid.).

By Annette F. Braun, Cincinnati, Ohio.

Argyresthia media n. sp.

Palpi, face and front part of the tuft on the head pale golden, tuft white behind; antennae pale golden with brown annulations.

Thorax white, patagia golden. Fore wings silvery white, costal edge suffused with pale golden. The markings which are dark bronzy brown are distributed as follows: A rather broad fascia from the middle of the dorsum reaches almost to the costal edge, widening just below it, and sending a narrow spur obliquely outward where it joins with the eleventh or twelfth of the narrow brown streaks which mark the costal edge of the wing. Apical third of the wing entirely overlaid with dark bronzy brown scales, except for two white costal spots and three smaller dorsal spots. The proximal side of the dark apex projects inward, forming an acute angle at the middle of the wing. Hind wings pale fuscous with golden tinged cilia. Veins 7 and 8 of the fore wings are separate.

Legs silvery white, outwardly fuscous and with the tips of the tarsal joints dark brown.

Expanse: 9 mm.

One specimen, Cincinnati, Ohio, May 28, 1910, captured in a clump of willow trees, on the trunk of one of which it was resting. I have kept this specimen for a number of years, hoping to discover its food plant, or at least collect additional specimens, but without success.

The species is most closely related to *A. inscriptella* Busck, which has, however, a darker costal edge, and a greater portion of the apical half of the wing dark.

Type in my collection.

Acrolepia incertella Chambers.

Heribeia incertella Chambers, Can. Ent., IV, 44, 1872; Dyar, List N. A. Lep., No. 6471, 1902.

Syn. *dorsimaculella,* Chambers, Can. Ent., V, 13, 174, 1873; Walsingham, Trans. Am. Ent. Soc., X, 172, 1882.

Contrary to the usual habits of the larvae in this genus, which, according to Meyrick (Handbook of British Lepidoptera) mine blotches in leaves, the larvae of *A. incertella* Cham. feed within folded leaves. In May, at the time the new shoots are developing, the young leaves toward the ends of the shoots of *Smilax hispida* Muhl. are folded edge to edge with the upper surface inside and are closely spun together along the margins. The larva feeds within leaving the lower epidermis of the leaf intact. At the time of pupation, the larva deserts the leaf and spins upon a leaf or twiner, an open network cocoon of yellowish or brownish silk, within which the chrysalis is placed upright with anal end attached.

Elachista praematurella Clemens.

Elachista praematurella Clemens, Proc. Acad. Nat. Sci., Phila., 172, 1860; Tin. No. Am., 133, 1872; Chambers, Can. Ent., VI, 76, 1874; Bull. Geol. Surv. Terr., III, 143, 1877; Busck, Proc. Ent. Soc., Wash., V, 203, 1903; Dyar, List N. A. Lep., No. 6088, 1902.

I have bred a specimen of this species from a mine on nodding wild rye, *Elymus canadensis* L. At first the mine is a mere thread-like line, but gradually increases in breadth until it comes to occupy almost the entire breadth of the leaf. The length of the mine is about 10 or 11 cm. The pupa is attached to a leaf beneath a few criss-cross threads of silk, not sufficient to be termed a cocoon.

There are several generations a year and specimens appearing in the middle and the latter part of summer are duller and have the white markings less distinct and less clearly limited, due to the encroachment of the grayish scales upon them.

I have not been able to verify Chambers' surmise that the larva of this species mines the blades of "blue grass," although I have often captured specimens on lawns and in pastures almost exclusively of blue grass; other species of grass, among them the food plant recorded here, are, however, always present.

Leucanthiza dircella n. sp.

Head golden, with dark brown hairs behind. Antennae dark brown with the tips silvery white.

Thorax golden, dark brown in front. Fore wings orange-yellow, with the apical portion dark brown, and a dark brown patch occupying the basal part of the wing *on the costa and at the base,* but *not reaching the dorsal margin.* This patch is bordered behind by an *almost straight golden fascia extending from costa to dorsum which thus encloses on the dorsal margin, a small patch of the orange-yellow ground color.* Basal angle sometimes with a few golden scales. An oblique somewhat curved golden streak, dark margined on both sides extends from the basal third of the wing near the costa to the middle of the costa. At the beginning of the cilia is a small golden costal streak. *Near the middle of the dorsum, is a short golden streak, margined toward the base by an oblique line of dark brown scales. At the tornus is an inwardly oblique and longer golden streak.* There is a streak of golden scales just within the margin along the termen, not very distinct in some lights. Cilia dark brown. Hind wings and cilia dark brown.

Abdomen dark brown above. Legs golden, tarsi dark brown.

Expanse: 5-6 mm.

Four specimens bred from large white blotch mines on the upper side of leaves of moosewood, *Dirca palustris* L., Clermont County, Ohio. The mine resembles that of *L. amphicarpeifoliella* Clem. very closely and contains from one to eight larvae. It may occupy almost the entire surface of the leaf, with finger-like projections made by the individual larvae. The cocoon, as in the other species of the genus, is spun outside the mine. Mines of the first generation may be collected toward the end of June, those of the second generation in September. Although the mines are common where the food plant occurs, the species is a difficult one to rear, as a large proportion of the larvae are parasitized.

Imagoes, July 8th to 29th.

The differences between this species and *L. amphicarpeifoliella* Clem., though slight, are constant. These differences are italicized in the description.

Type and paratypes in my collection.

Acrocercops strigosa n. sp.

Head brownish with whitish scales intermixed. Palpi fuscous. The labial palpi have the base of the terminal joint and a ring near the base whitish. Antennae fuscous.

Fore wings pale brownish with a sprinkling of fuscous scales, which are occasionally gathered into spots on the margins and near the tip of the wing. A series of seven oblique almost parallel and equally distant narrow white lines cross the wing from costa to dorsum, reaching the dorsum farther from the base. The first of these is placed at the basal fifth on the costa; the third forks below the fold; the fourth and fifth are a little interrupted in the middle; the seventh is concave outwardly. There is a short white streak at the extreme apex, and a similar one beyond it crossing the cilia. Cilia gray. Hind wings and cilia brownish gray.

Legs whitish gray, with broad black annulations. Abdomen gray.

Expanse: 10 mm. (male).

Powell County, Kentucky; one specimen bred on *Quercus prinus* L. The early mine is a narrow white gallery, which suddenly expands into a very large whitish blotch. The larva feeds here and there, finally consuming the entire parenchyma. A dense brownish cocoon, ornamented with several whitish globules, is spun in a fold in a leaf. Mine collected May 23rd; imago, June 25th.

Type in my collection.

Parectopa pennsylvaniella Engel.

Gracilaria pennsylvaniella Engel, Ent. News, XVIII, 278, 1907.

I have bred this species from large inflated mines on leaves of *Aster cordifolius* L., similar to the mines of *P. plantaginella* Cham. on *Erigeron*. At first the parenchyma is not eaten in the loosened area and the mine is indistinct; later most of the parenchyma is consumed and the mine becomes yellow. Cocoon in a fold of the leaf. Mines collected July 17th yielded imagoes July 30th.

Recent Collections of Spiders in Newfoundland and Labrador (Aran.).

By J. H. Emerton, Boston, Mass.

In the last two seasons several small collections of spiders from Newfoundland and Labrador have come into the writer's hands, which considerably extend the published range of several species. The Newfoundland spiders are nearly all familiar species of northern New England, but they include *Lycosa quinaria*, previously found in the Rocky Mountains and once in a bog in Maine. The spiders from the Natashquan River region in southern Labrador are also familiar New England species. The Labrador spiders from Battle Harbor and northward include two species of very wide distribution, *Epeira patagiata* and *Erigone longipalpis*, but all the others are well known residents of mountain tops in New England and in the Rocky Mountains. Messrs. Leng and Engelhart, two New York entomologists, while at Battle Harbor sifted the scanty leaf mold under the dwarf birch trees and found *Ceratinella brunnea*, a common northern New England species and *Tmeticus montanus*, *Tmeticus bidentatus* and *Bathyphantes alpina*, all common under moss and leaves in the upper forests of the White Mountains. In Miss Esterbrook's collection from the northern part of the Labrador coast occurs for the first time *Lycosa pictilis*, a species before only known from the top of Mt. Washington. The accompanying table gives a list of the species found with their localities and range. Besides the species mentioned are two unidentified Linyphiadae from Newfoundland.